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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/304,523	05/04/1999	SHUNPEI YAMAZAKI	07977/046002	9801

20985 7590 05/16/2003

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EXAMINER

KUNEMUND, ROBERT M

ART UNIT	PAPER NUMBER
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1765

DATE MAILED: 05/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/304,523

Applicant(s)

YAMAZAKI ET AL.

Examiner

Robert M Kunemund

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 7-30 and 37-60 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 25-30, 43 and 44 is/are allowed.
- 6) ☒ Claim(s) 7-24, 37-42 and 45-60 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 30.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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### The Rejections

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 7-24, 37 to 42 and 45 to 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Imahashi in view of Celler et al. .

Imahashi et al. teaches (col. 5 lines 10-23 and 34) a method for manufacturing an LCD device, comprising the step of: forming a semiconductor (amorphous silicon) film over a substrate having an insulating upper surface (glass substrate); and irradiating (crystallizing by heating) the semiconductor film with an exciter laser beam having a cross section which is elongated in one

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direction (rectangular cross section), while relatively moving the substrate (holding the substrate with a vacuum chuck) during transport ( col. 7 line 13, also col. 1 and 2.

Imahashi et al. does not teach vacuum- holding the lower surface of the substrate in contact with the flat surface of the stage during irradiation. Seller et al. teaches vacuum-holding the lower surface of the substrate in contact with the flats surface of the stage during irradiation (i.e, holding the substrate with a vacuum chuck during laser irradiation, col. 6 lines 39-40).

Because it would have been convenient to do so, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to combine the teachings of seller et al. with those of Yamachiche et al. So as to hold the substrate during laser irradiation with a vacuum chuck.

Imahashi et al. does not teach that the vacuum chuck comprises a stage having a flat surface, and at least one suction inlet, and operates in such a manner that the lower surface of the substrate is in contact with the flats surface of the stage. However, since Imahashi et al. Teach the method claimed, under the principle of inherence the invention is considered to be anticipated in this regard by Imahashi et al. as evidence tending to show inherency, it is noted that a vacuum chuck must embody these properties if it is to be used effectively.

Imahashi et al. does not teach flattening the substrate. However, since Imahashi et al. teaches the method claimed, under the principle of inherence the invention is considered to be anticipated in this regard by Imahashi et al. As evidence tending to show inherence, it is noted that any substrate held successfully by a vacuum chuck must tend to flattened by the pressure

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difference. Also, the reference does not teach the roughness of the stage. However, this is an apparatus limitation in a method claim and given little or no weight in determining patentability. One of ordinary skill in the art would have obvious used a smooth stage in order to create a uniform surface for crystallization.

Imahashi et al. does not teach irradiating the crystallized semiconductor film (claims 19-24, 41 and 42). Seller et al. teaches irradiating the crystallized semiconductor film Col.6 lines 28-29). Because Seller et al. teaching that this increases mobility (col.1 lines 35-39 and 54-58), it would have been obvious to one of ordinary skill in the art, at the time of the invention, to combine the teachings of Seller et al. with those of Imahashi et al. so as irradiate the crystallized semiconductor film and produce a superior LCD device as an expected result.

Response to Applicants' Arguments

Applicant's arguments filed March 10, 2003 have been fully considered but they are not persuasive.

Applicants' argument concerning the prior art is noted. Applicants have argued unexpected improvements in liquid crystal displays due to the instant process. However, the instant process is not limited in scope to liquid crystal displays. The claims are drawn to any semiconductor device. Further, there is no showing in the instant application that there is an unexpected result solely from the roughness of the stage. Also, applicants have not provided the support for the statement concerning the prior art stage roughness. Thus, it would have been obvious to one of ordinary skill in the art to obtain a flat surface in order to improve the uniformity of the devices.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

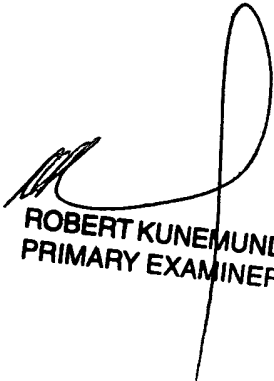
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert M Kunemund whose telephone number is 703-308-1091. The examiner can normally be reached on 8 hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ben Utech can be reached on 703-308-3636. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3599 for regular communications and 703-305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.

RMK  
May 13, 2003



ROBERT KUNEMUND  
PRIMARY EXAMINER